



Michael Foley • 1st
 'Ceramic Implant Guy'
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"To summarize the Zirconia vs Titanium debate I represented over the weekend, here is the most important and in my opinion fatal blow to Titanium that everyone needs to be aware of:

- The goal of the healthcare profession is to HEAL the patient.
 - Healing is analogous to the reduction of chronic inflammation, which is the underlying root cause of nearly all disease.
 - Therefore, anything in medicine that reduces chronic inflammation will be favorable over something that contributes to chronic inflammation.
 - The literature is crystal clear on the fact that Titanium implants contribute significantly to chronic inflammation.
 - The literature also is crystal clear on the fact that Zirconia implants have nearly zero chronic inflammation for many reasons.
 - Therefore it is easy to deduct that if the goal is to reduce chronic inflammation so that optimal health can be achieved, which it is, then the ONLY choice is ZIRCONIA.
 - I fight for the optimal health of my patients, hence I support Zirconia Implants.
 - What would you chose? Why?"
- "To summarize the Zirconia vs Titanium debate I represented over the weekend, here is the most important and in my opinion fatal blow to Titanium that everyone needs to be aware of:
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<h2 style="margin: 0;">TITANIUM</h2> <p style="margin: 0;">Dissolved Titanium Particles linked to <u>Increase in constant</u> inflammation After 5 years, 20% will have periimplantitis and 43% perimucisitis</p>  <p style="text-align: center; margin-top: 10px;"> ✘ CHRONIC INFLAMMATION DISEASE </p>	VS	<h2 style="margin: 0;">ZIRCONIA</h2> <p style="margin: 0;">Significant <u>reduction in</u> inflammation The literature clearly supports the claim of superior tissue health</p>  <p style="text-align: center; margin-top: 10px;"> ✔ NEARLY ZERO INFLAMMATION OPTIMAL HEALTH </p>
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Gerald Niznick DMD, MSD • You
Dental Implant Pioneer

Actually, the goal is to restore form and function at a price the patient can afford. A fractured Zirconia implant may have less inflammation but it is hardly a success. A Zirconia implant with limited prosthetic options can not be restored as easily or as esthetically as a titanium implant with a cad-milled abutment. A totally edentulous jaw needing angled multi-unit abutments is not an option with Zirconia implants. If your only goal is to “reduce chronic inflammation” you should have been a hygienist.



Dan Hagi • 2nd
Dental Surgeon / Founder of Dental Implantology Center of E...

Gerald agreed. However 50 years ago we didn't have milled CAD/CAM abutments or multi unit components, or tools to extract integrated failing implants. The evolution of ceramics is at a point where many, not all clinical situation can be managed. Nearly all “tooth” replacement can be achieved with monobloc design zirconia implants with a high degree of predictability and aesthetics. The ease of restoration I believe exists with the ceramics as they mimic teeth. The emergence of two piece designs is showing us that applications are growing. Just as titanium was born out of the need to rehabilitate an atrophic mandible it appears that zirconias' birth is from replacing a tooth with less gingival sequelae.



Ninian Peckitt • 1st
Oral and Maxillofacial Surgeon / Facial Plastic Surgeon

While the majority of implants are titanium, peri-implantitis has been reported with zirconia implants. 26 Initial bacterial colonization of dental implants happens quickly in the oral cavity for both dentate and fully edentulous patients.

"Peri-implantitis and ceramic implants: First clinical observations | Request PDF"

<https://www.researchgate.net/publication/317021138> **Peri-implantitis and ceramic implants First clinical observations**



Michael Foley • 1st

'Ceramic Implant Guy'

from that same article - The reduced bacterial adhesion seems to be very relevant for the clinical daily routine, as clinical long-term studies have not reported any typical peri-implant infections with bone loss around zirconia dental implants. Thus, very little information is available with regard to incidence, progress, and therapy of zirconia peri-implantitis.



Ninian Peckitt • 1st

Oral and Maxillofacial Surgeon / Facial Plastic Surgeon

Michael Foley "Zirconia versus titanium in dentistry: A review - PubMed" <https://pubmed.ncbi.nlm.nih.gov/31666488/>

Abstract

This review scientifically compares the properties of zirconia and titanium, but does not identify the best among them as an implant material. Surface treatment and modification to improve tissue bonding and inhibit bacterial adhesion are not considered in this review. The mechanical properties of titanium are superior to those of zirconia; some studies have shown that zirconia can be used as a dental implant, especially as an abutment. Extensive surface treatment research is ongoing to inhibit bacterial adhesion and improve osseointegration and soft tissue adhesion phenomena which make it difficult to evaluate properties of the materials themselves without surface treatment. Osseointegration of titanium is superior to that of zirconia itself without surface treatment; after surface treatment, both materials show comparable osseointegration. The surface morphology is more important for osseointegration than the surface composition. To inhibit bacterial adhesion, zirconia is superior to titanium, and hence, more suitable for abutments. Both materials show similar capability for soft tissue adhesion.



Gerald Niznick DMD, MSD • You

Dental Implant Pioneer

Dan Hagi

The NobelPearl Zirconia Implant cost \$539, \$75 more than NobelReplace. Its abutments for cemented restorations are \$299 with no contoured margins. The "Instructions for Use" demonstrate the many limitations of Zirconia implants. . https://store.nobelbiocare.com/us/en/media/eifu/IFU1072_EN_US_01.pdf

Limitations Noted In These Instructions:

1. Only two diameter implants (4.2mmD & 5.5mmD) are available.
2. The surgical protocol calls for using the bone tap every time. The main advantage of a tapered implant is that it can be inserted into an undersized socket in soft bone to achieve a high initial torque for immediate loading.
3. The black fixation screw is made of PEEK material (polyetheretherketone) which is a high-performance semi-crystalline engineering thermoplastic and can only be tightened once to 25Ncm. This means that if a prosthesis is removed for hygiene, a new screw will have to be used. A different (gold) screw is used during laboratory fabrication of the restoration and can only be tightened to 5Ncm..
4. To compensate for the relative weakness of the PEEK material the screws are wider than titanium screws requiring a wider screw channel in the final restoration that can effect occlusion and esthetics.

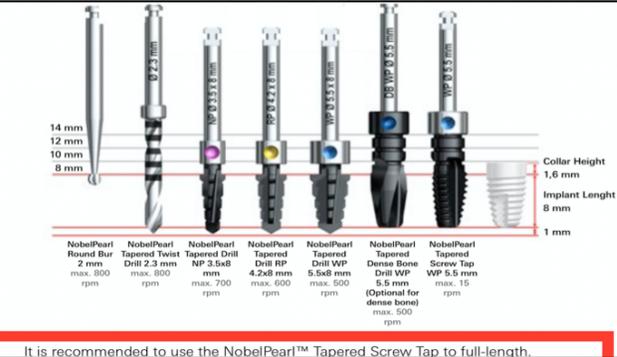
NobelPearl™ Tapered Dental Implant System

Instructions for use



Material: NobelPearl™ Tapered implants are made of biocompatible zirconia / zirconium dioxide. NobelPearl™ Cover Screw Inter-X are made of PEEK (Polyether ether ketone).
Surface: NobelPearl™ Tapered implants feature ZERAFIL™ surface (sandblasted and acid etched).

Implant Platform	Implant Diameter	Implant Length (endosseous)
RP	Ø 4.2 mm	8 mm, 10 mm, 12 mm, 14 mm
WP	Ø 5.5 mm	8 mm, 10 mm, 12 mm



It is recommended to use the NobelPearl™ Tapered Screw Tap to full-length.

Abutments:
 A premanufactured dental implant abutment to be directly connected to the endosseous dental implant intended for use as an aid in prosthetic rehabilitation.

Note: NobelPearl™ Definitive Clinical Screw is included with the NobelPearl™ abutment. NobelPearl™ Temporary Clinical Screw is included with the NobelPearl™ Temporary Abutment.

- Materials:**
- NobelPearl™ Abutments are made of zirconium dioxide
 - NobelPearl™ Definitive Clinical Screw is made of VICARBO® (PEEK-CF)
 - NobelPearl™ Healing Abutment is made of PEEK
 - NobelPearl™ Temporary Abutment is made of PEEK
 - NobelPearl™ Temporary Clinical Screw is made of PEEK-CW30

1. Screw-retained restoration:

- Standard screw channel:**
 Make sure that the screw channel diameter allows for the NobelPearl™ Definitive Clinical Screw Inter-X to be inserted and removed when the crown/bridge is cemented to the abutment. The minimum diameter of the screw channel for the NobelPearl™ Definitive Clinical Screw Inter-X is Ø2.8 mm.
- Reduced-diameter screw channel:**
 Alternatively, the screw channel can be reduced to Ø2.2 mm. The NobelPearl™ Screwdriver can be utilized to create the screw channel. When using a reduced-diameter screw channel, the NobelPearl™ Definitive Clinical Screw Inter-X must be inserted in the abutment in the laboratory prior to cementing the crown/bridge onto the abutment. Before cementing the crown/bridge, seal the screw channel with wax to prevent the cement from flowing into the screw channel. The NobelPearl™ Definitive Clinical Screw Inter-X cannot be inserted or removed after the crown/bridge has been cemented. If the abutment is shortened, make sure that the NobelPearl™ Definitive Clinical Screw Inter-X has sufficient vertical space to be screwed in and out.

Fabrication of the suprastructure in the laboratory:

Select an appropriate abutment. If necessary, adjust the height of the abutment. Modifications of the abutments should be performed using sufficient, continuous cooling with slight pressure. Use high speed (turbines) and fine grain size (red-ring diamond, smaller than 50 µm). Local overheating causes micro-fissures and leads to destruction of the abutment. When grinding the abutment, a NobelPearl™ Implant Replica Inter-X can be used as a holder to protect the connection. Only the conical part of the abutment can be shortened.



You can choose a monolithic crown/bridge consisting of a range of optimized polymers or zirconium dioxide or full-ceramic crown/bridge made of layered or pressed ceramic on a zirconium dioxide coping. Make sure to respect the minimum dimensions of the restorative material following the manufacturer's instructions. Do not create a cantilevered restoration.

For work in the laboratory, the NobelPearl™ Lab Screw Inter-X can be used. The maximum torque for the NobelPearl™ Lab Screw Inter-X is **5Ncm**.

	NobelPearl Abutment Straight Inter-X WP 1 mm Article number: 300665 \$299.00 Add to my catalog	- 1 + ADD TO CART
	NobelPearl Abutment Straight Inter-X RP 2 mm Article number: 300667 \$299.00 Add to my catalog	- 1 + ADD TO CART
	NobelPearl Abutment Straight Inter-X WP 2 mm Article number: 300668 \$299.00 Add to my catalog	- 1 + ADD TO CART
	NobelPearl 15° Abutment Inter-X RP 1 mm Article number: 300670 \$299.00 Add to my catalog	- 1 + ADD TO CART
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